

## A SUPPOSED FOSSIL CATMINT

BY T. D. A. COCKERELL

For many years I have had a peculiar little leaf from the Florissant Miocene, which I have recurred to at intervals, always with the decided impression that it belonged to the Labiatae or Lamiaceae. It was collected by Mr. S. A. Rohwer at Station 13 B. It is evidently thin, surely herbaceous, with a slender curved petiole about 5 mm. long. The blade of the leaf is about 15 mm. long and 13 wide, with a pointed apex, cordate base, and four broad dentiform tubes, not very acute, on each side, separated by deep incisions. The figure shows the character better than any description. Under a lens, I thought the apical



lobe was denticulate laterally, and carried on one side, near the base, an extra slender lobe. Under the binocular, the slender lobe resolved itself into extraneous matter, and the denticulations appeared to be due to irregular overlapping films of shale.

The leaf accordingly agrees very closely in pattern and aspect with the old world genus *Nepeta*, and is provisionally so referred, as *Nepeta* (?) *pseudaeluri* n. sp. It is named after *Pseudaelurus*, a cat of the period. I had to consider whether it might be referred to *Urtica*, some species of which it much resembles, but on the whole the reference given seems preferable.

In Nature, Nov. 13, 1926, p. 696, I described a Labiate from the Eocene. Unfortunately the figure I sent was not printed, but it has been saved, and is at the British Museum (Natural History).

## PROCEEDINGS OF THE CLUB

MEETING OF MARCH 8, 1927

This meeting was called to order at 8:20 p. m. in the Assembly Hall of the new educational wing of the American Museum of Natural History, with President Richards in the chair. Sixty-five members and friends were present. If the joint meetings with other societies for the discussion of wild flower conservation are excepted, this was the largest attendance of any meeting for several years. The program of the evening consisted of an illustrated lecture by Dr. Francis E. Lloyd of McGill University

entitled "Two chapters in modern biology: 1. Sexual reproduction in watersilk (*Spirogyra*); 2. The feeding habits of *Vampyrella lateritia*." Dr. Lloyd described the development of the sexual reproductive structures of *Spirogyra longata*, and dealt particularly with the process of union of the sex cells and the subsequent condensation to form the fertilized egg. The account was based upon the researches which have recently been carried on by the speaker. The illustrations were all made from living material by the speaker personally, and included, in addition to lantern slides, a motion picture showing the process of union of the sex cells.

A particularly interesting feature of the lecture lay in the behavior of the above mentioned sex cells compared with that of a curious non-cellular animal form known as *Vampyrella lateritia*. This little animal feeds entirely upon the water silk, and during its feeding it expands very greatly. During a brief period following the feeding, the acquired bulk is rapidly lost and the volume of the animal is restored to normal. It has been found that the process here is precisely similar to that by which the united sex cells of the water silk lose their bulk. The feeding habits of *Vampyrella* were shown in a motion picture in which the whole behavior of the animal was seen in detail.

ARTHUR H. GRAVES,  
Secretary.

#### MEETING OF MARCH 30, 1927

This meeting was called to order at 3:30 p. m. at the Museum Building of the New York Botanical Garden. In the absence of the President and vice-Presidents, Dr. R. A. Harper was chosen chairman *pro tempore*. The following candidates were unanimously elected to membership in the Club:

Mr. P. Timothy Young, Furnald Hall, Columbia Univ., New York City.

Mr. John Thompson, 110 W. 71st St., New York City.

Mr. W. Lincoln Highton, 77 Roseville Ave., Newark N. J.

The Secretary announced the appointment by the President of Dr. D. T. MacDougal of the Carnegie Institution as a delegate to represent the Club at the 200th anniversary of the founding of the American Philosophical Society, April 27, 28, 29 and 30th in Philadelphia, Penn.

The report of the Committee on revision of the Constitution, appointed at the meeting of February 23, was presented by Dr. J. H. Barnhart, Chairman. The report follows:

"The Committee has adopted a liberal view of the scope of its labors. Its work has been based upon the last edition of the Constitution and By-laws as printed in May, 1889; a careful study of the manuscript and published proceedings of the Club, made by Mr. B. R. Abbott during recent months; and a personal knowledge of the current practices of the Club.

The old regulations have long been out-of-date, both legally and practically, but in revising them it has not been the intention of the Committee to introduce any novelty. We have incorporated changes as follows:

- (1) All amendments legally adopted, as shown by the minutes.
- (2) All amendments proposed and evidently supposed at the time to have been legally adopted, although the minutes fail to show that the proper procedure was followed.
- (3) All motions adopted by the Club which were in effect modifications of the Constitution and By-Laws, but which were not put into the form of amendments.
- (4) All practices of the Club, technically in violation of the Constitution and By-laws, which have continued for years without protest from any member. Such practices, although irregular, may reasonably be assumed to have acquired the force of amendments.

Guided by these principles, and introducing a few minor verbal changes which improve the form without altering the intent, we have codified the existing Constitution and By-laws as hereto appended. And in order to legalize these regulations in an unquestionable manner, we recommend that the present Constitution and By-laws be amended by the substitution of those herewith presented."

By vote of the Club the report was accepted and referred to a committee consisting of the President, Dr. H. M. Richards; Secretary, Dr. A. H. Graves; and the Acting Editor, Dr. S. Trelease, for report at the next Wednesday meeting.

Dr. Barnhart proposed the following amendments to the Constitution:

*Proposition No. 1*

That the article of the Constitution on "Expulsion of members" be amended by the addition of these words:

"Such expulsion shall require a two-thirds vote of the members present at the meeting, and shall not be voted unless the charges of unworthiness have been submitted in writing, and the member has been given an opportunity to defend himself against the charges."

*Proposition No. 2*

That the article of the Constitution on "Amendments" be amended by striking out all after the words "the next regular or special meeting" and the substitution of the words:

"The proposed amendment shall then be sent by the Secretary to each member; printing a proposed amendment in any regular publication of the Club shall be deemed equivalent to a personal notice sent to each member. The votes received by the Secretary within thirty days shall be canvassed by the President, Secretary, and Treasurer, and the result announced at the next meeting of the Club. From such announcement shall date the adoption or rejection of the proposed amendment. Two-thirds of the votes cast shall be required for its adoption."

These amendments were referred to the above mentioned committee for report.

The scientific part of the program consisted of an illustrated lecture by Dr. John M. Arthur of the Boyce Thompson Institute, entitled "Some effects of carbon dioxide and light upon plant development." A summary of the lecture, kindly supplied by Dr. Arthur, is given below:

The data presented included four different series of experiments as follows:

1. Plants grown in a greenhouse in ordinary daylight during the winter months.
2. Plants grown in a greenhouse with daylight plus six hours of artificial light from a gantry crane carrying forty-eight 1,000 watt lamps, both with and without additional carbon dioxide.
3. Plants grown entirely under artificial light in the constant light room. This room was illuminated by twenty-five 1,500 watt lamps.

4. Plants grown in a series of colored glass houses in which increasing amounts of ultra violet and blue regions of sunlight were screened out.

A series of slides showing the equipment and some of the results on the general growth habit and flowering of the plants was included.

From the data presented the following conclusions were drawn:

1. Plants can be grown under artificial light using the gas-filled incandescent type of lamp as a source. Many plants are injured by continuous 24 hour exposure to artificial light. The tomato is a good example of the maximum injury of this sort.

2. A combination of 12 hours natural daylight and 6 hours artificial light with additional carbon dioxide gas will produce apparently normal plants. Eighteen hours of continuous artificial light produces much more injury.

3. The time and amount of flowering is controlled in some plants by the length of day, using either artificial or natural daylight as a source as was first pointed out by Garner and Allard of the U. S. D. A. Long day plants are attuned to flower on the long days of summer while short day plants flower on the short days of spring or fall. Flowering in other plants is not greatly affected by the length of day. These are the so-called "ever blooming" plants. These considerations apply to both natural daylight and artificial light. The salvia was shown as an example of a short day plant; lettuce and radish as long day plants, and buckwheat as an "ever blooming" type.

4. Plants show very little difference in growth habit or time and amount of flowering whether they receive the ultra violet of sunlight or whether this region is cut off down to 390 millimicrons. Certain colors are developed to a greater degree with ultra violet light. When the blue region is screened out of sunlight the plants grow in general much taller, show a lower dry weight and less flowering and fruiting. The blue is apparently necessary for producing both the normal form of plants and in photosynthesis.

ARTHUR H. GRAVES,  
*Secretary.*